

Appl. No. 09/525,901  
Amct. Dated April 30, 2003  
Reply to Office action of January 30, 2003  
Attorney Docket No. P10944/019949-001  
EUS/J/P/03-1037

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### **Listing of Claims:**

1 -10. (Cancelled)

1 11. (New) A method of broadcasting information to mobile stations within a wireless telecommunications system, wherein said system includes a radio base station having an adaptive array antenna having a plurality of antenna elements, said method comprising the steps of:

determining the geographic position of a plurality of mobile stations subscribed to receive certain broadcast information;

generating a multicast data transmission signal including said broadcast information; and

feeding said multicast data transmission signal to each of said plurality of antenna elements of said adaptive array antenna, wherein the amplitude and phase of said signal delivered to each of said plurality of antenna elements is adjusted as a function of said geographic position of said plurality of mobile stations, whereby a signal beam is formed having a beam width sufficient to cover only the area substantially bounded by the geographic locations of said plurality of mobile stations.

2 12. (New) The method of Claim 11, wherein said step of determining the geographic position of said plurality of mobile stations is performed for each of said mobile stations in response to receiving a signal from a mobile station requesting receipt of said broadcast information.

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3 13. (New) The method of Claim 11, wherein said amplitude and phase of said signal delivered to each of said plurality of antenna elements are a function of a signal received from each of said plurality of mobile stations.

4 14. (New) The method of Claim 13, wherein said signal received from each of said plurality of mobile stations comprises data identifying the geographic position of said mobile station.

5 15. (New) The method of Claim 14, wherein said data identifying said geographic position is obtained by said mobile station from a Global Positioning System (GPS) satellite.

6 16. (New) A system for broadcasting information to mobile stations within a wireless telecommunications network, wherein said network includes a radio base station having an adaptive array antenna having a plurality of antenna elements, said system comprising:

means for determining the geographic position of a plurality of mobile stations subscribed to receive certain broadcast information;

means for generating a multicast data transmission signal including said broadcast information; and

means for feeding said multicast data transmission signal to each of said plurality of antenna elements of said adaptive array antenna, wherein the amplitude and phase of said signal delivered to each of said plurality of antenna elements is adjusted as a

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function of said geographic position of said plurality of mobile stations, whereby a signal beam is formed having a beam width sufficient to cover only the area substantially bounded by the geographic locations of said plurality of mobile stations.

7. (New) The system of Claim 6, wherein said means for determining the geographic position of said plurality of mobile stations determines said position for each of said mobile stations in response to receiving a signal from a mobile station requesting receipt of said broadcast information.

8. (New) The system of Claim 6, wherein said amplitude and phase of said signal delivered to each of said plurality of antenna elements are a function of a signal received from each of said plurality of mobile stations.

9. (New) The system of Claim 6, wherein said signal received from each of said plurality of mobile stations comprises data identifying the geographic position of said mobile station.

10. (New) The system of Claim 9, wherein said data identifying said geographic position is obtained by said mobile station from a Global Positioning System (GPS) satellite.